

OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 1A

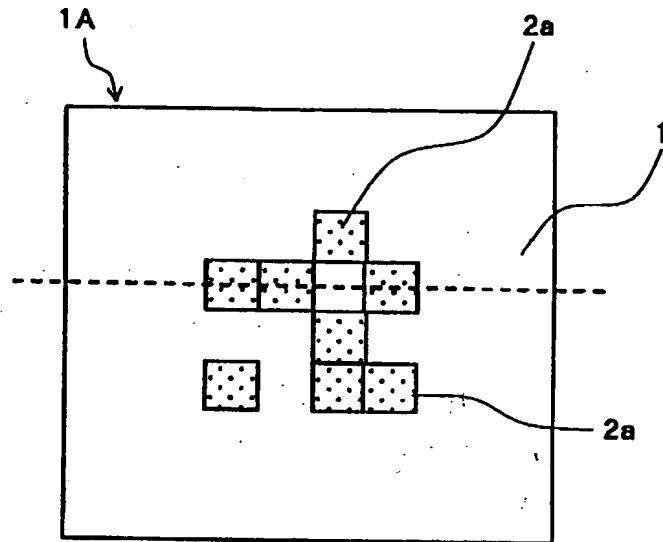


FIG. 1B

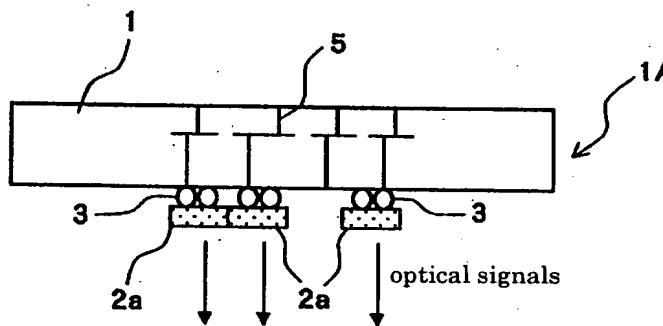
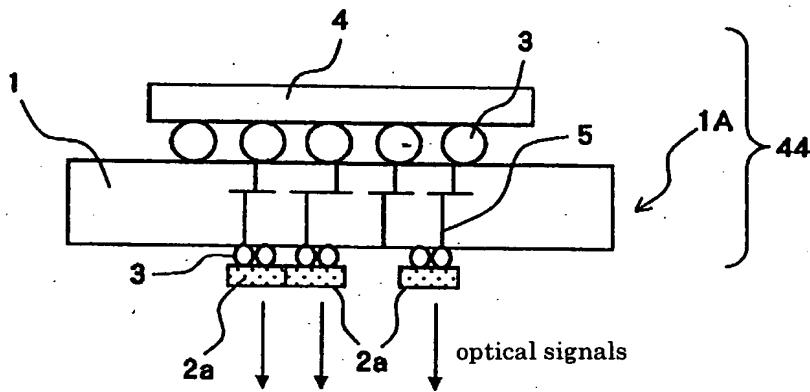


FIG. 1C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 2A

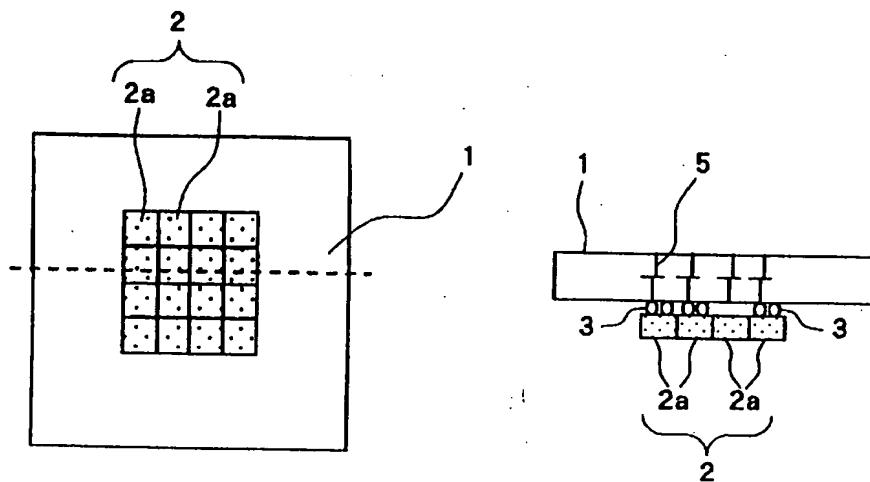


FIG. 2B

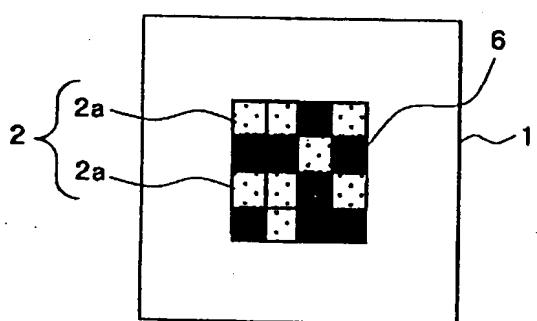
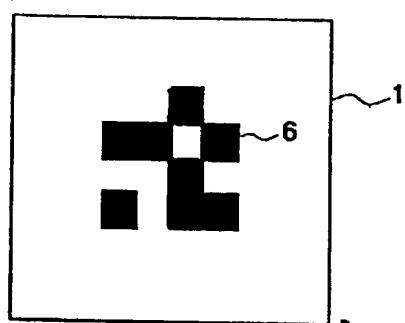


FIG. 2C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 2D

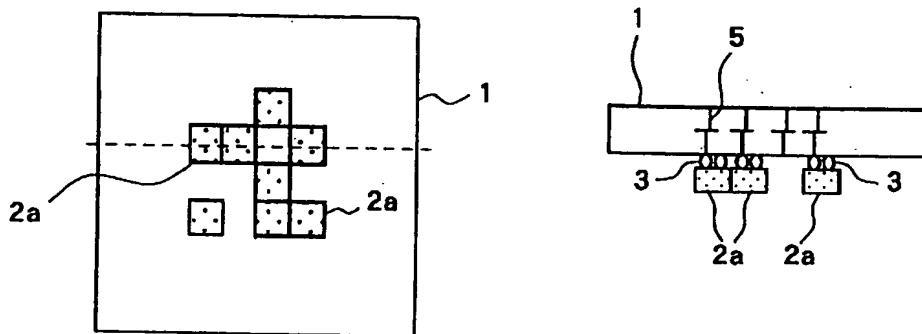


FIG. 3A

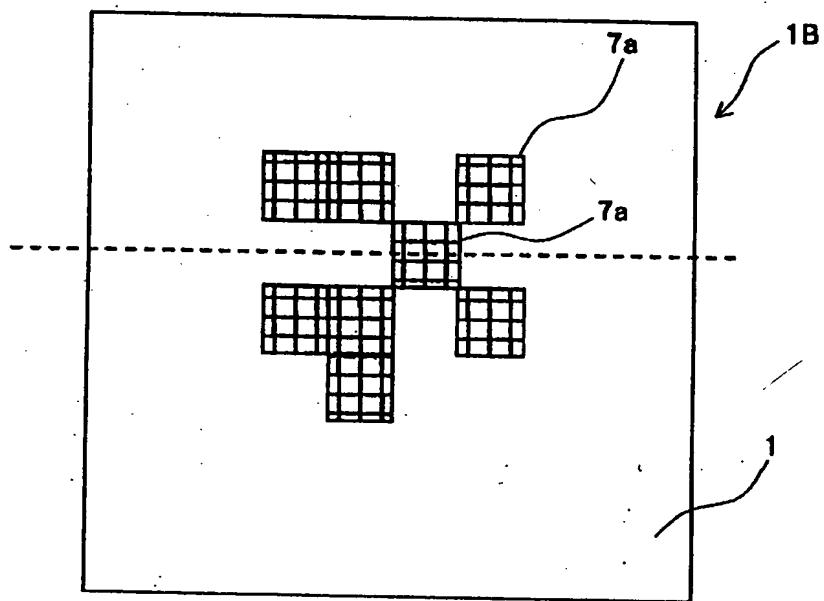
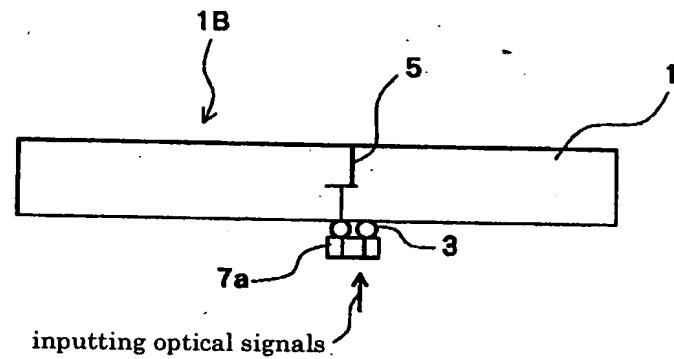


FIG. 3B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 3C

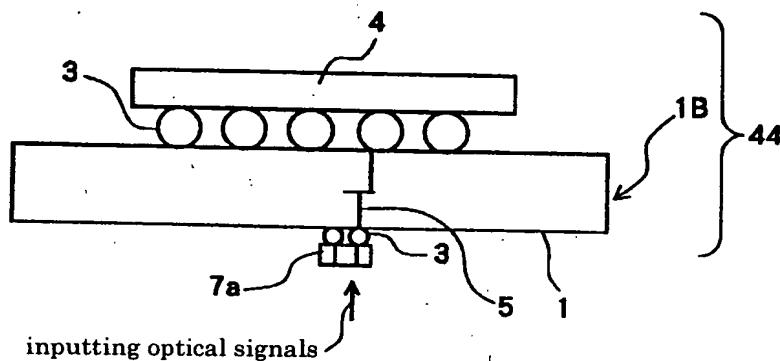


FIG. 4A

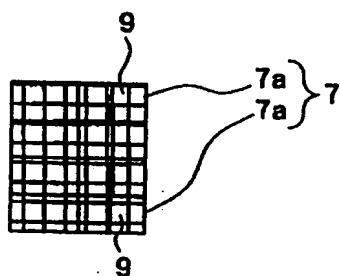


FIG. 4B

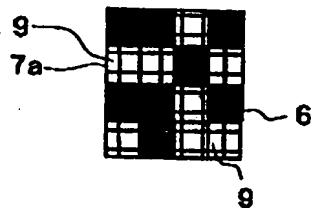
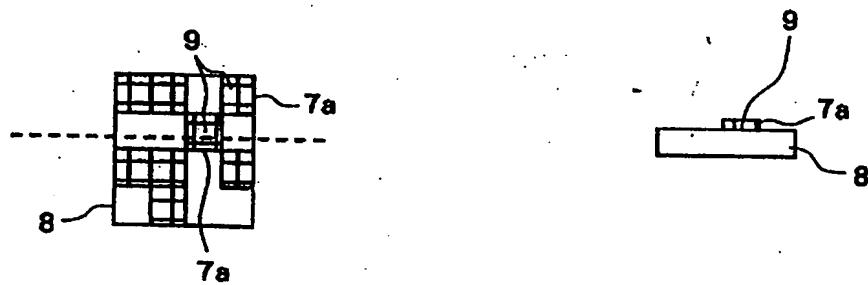


FIG. 4C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 4D

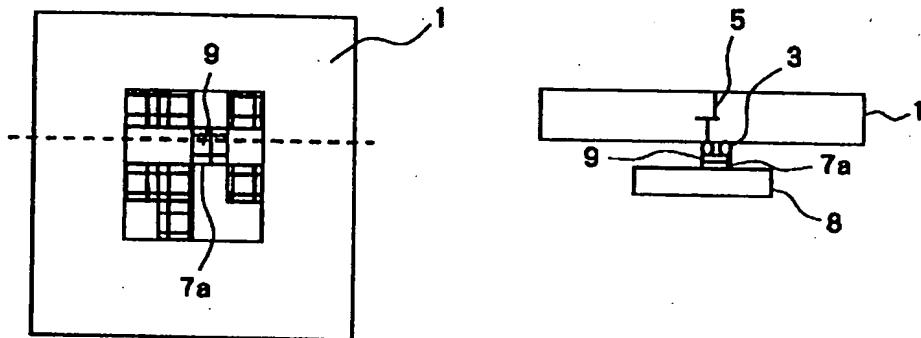


FIG. 4E

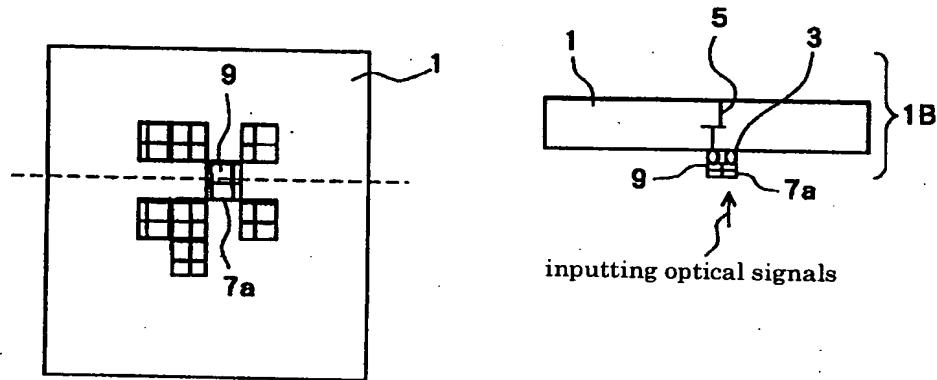
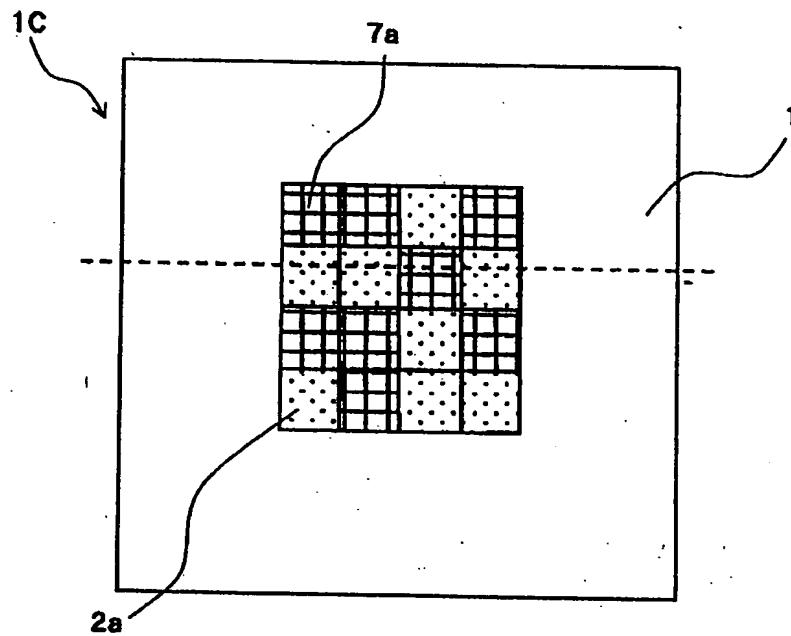


FIG. 5A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 5B

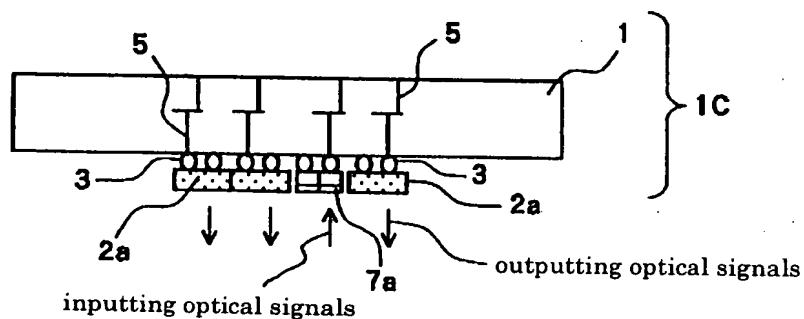


FIG. 5C

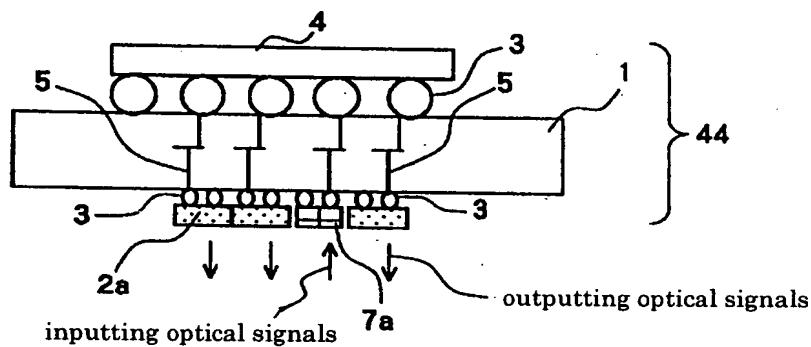
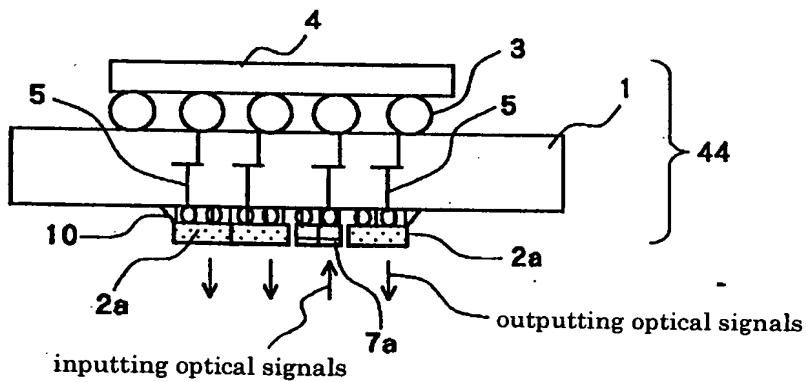


FIG. 5D



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 6A

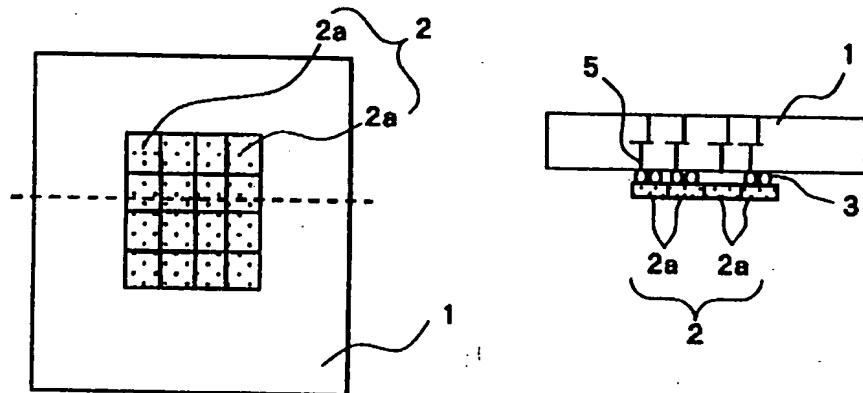


FIG. 6B

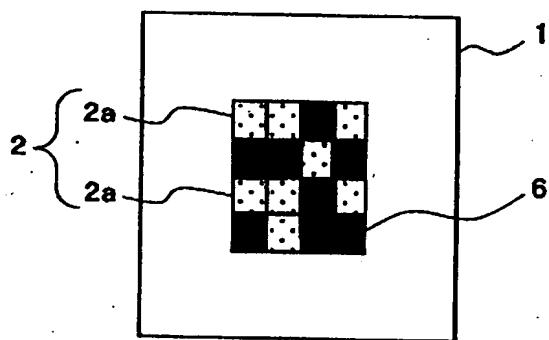
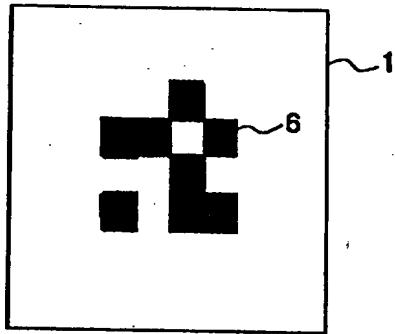


FIG. 6C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 6D

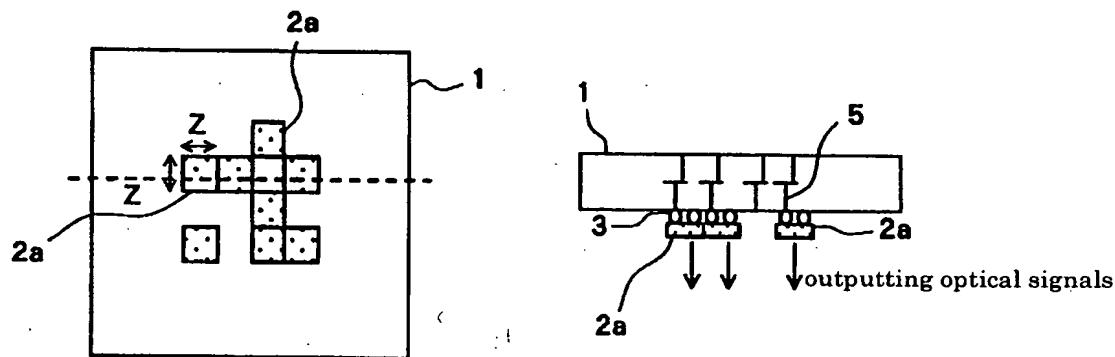


FIG. 6E

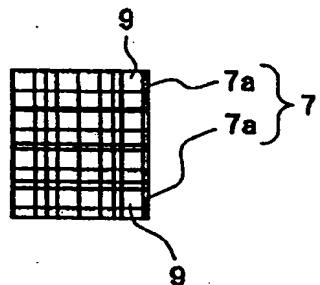


FIG. 6F

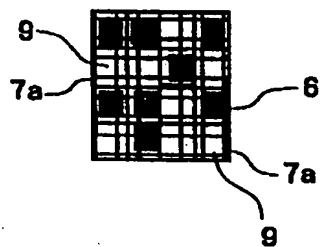
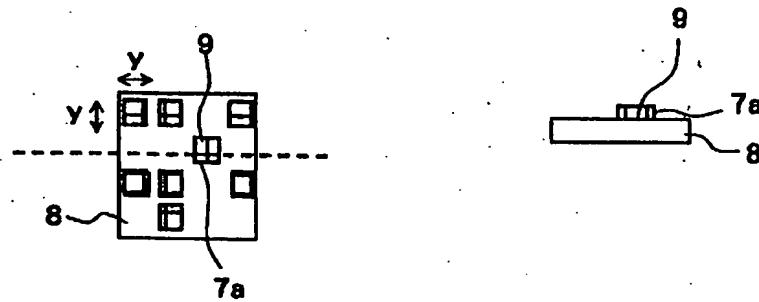


FIG. 6G



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 6H

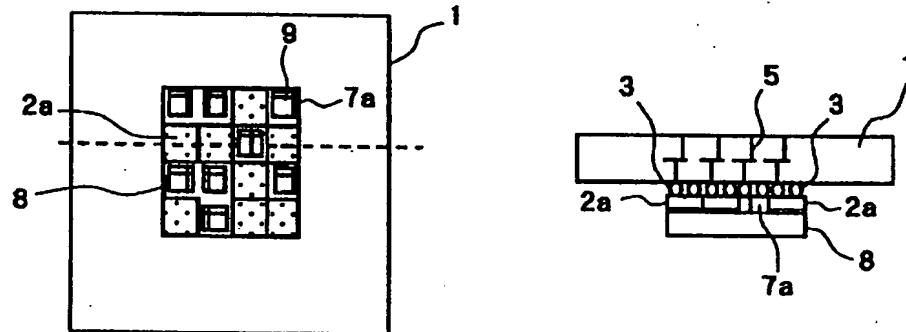


FIG. 6I

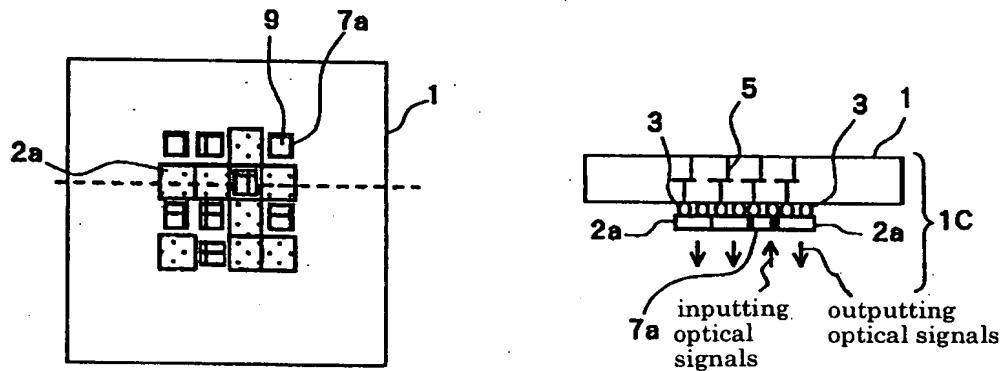
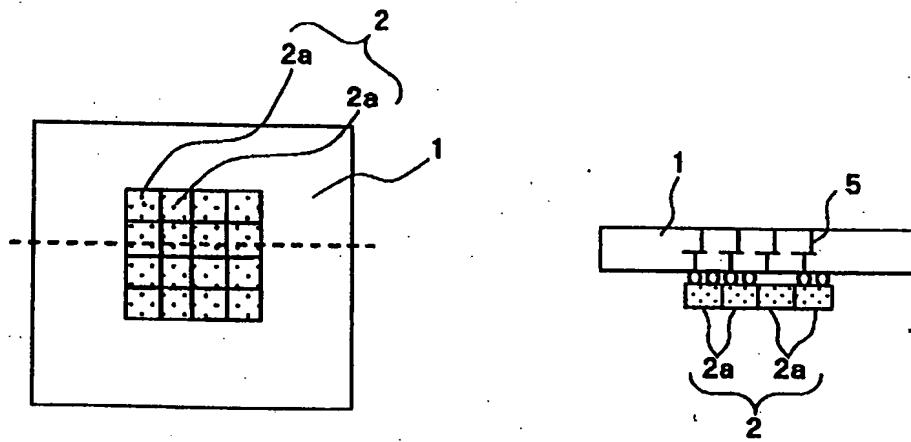


FIG. 7A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 7B

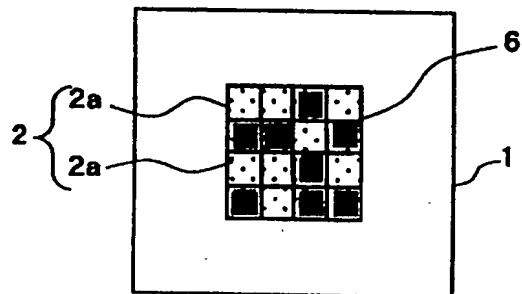


FIG. 7C

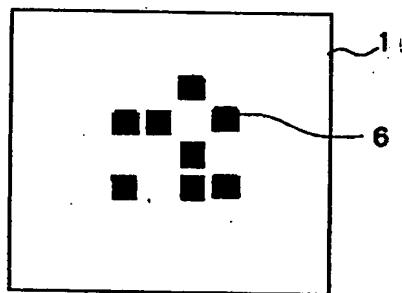


FIG. 7D

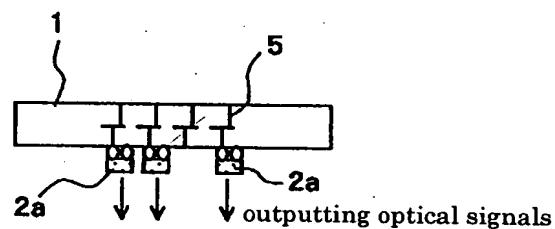
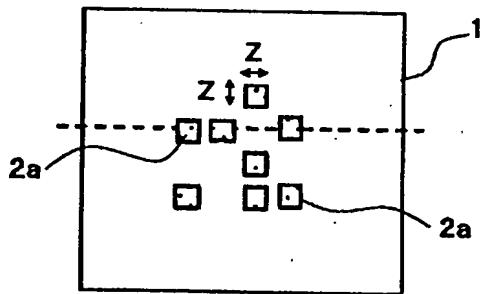
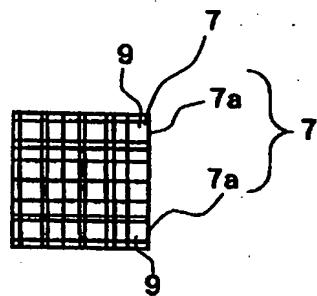


FIG. 7E



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 7F

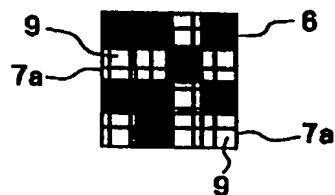


FIG. 7G

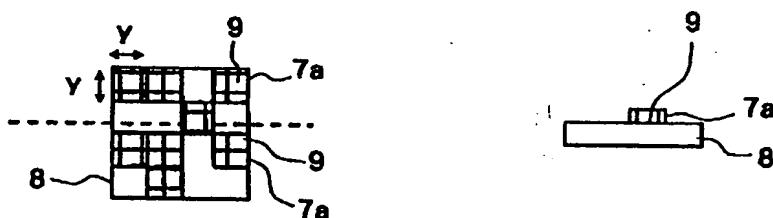


FIG. 7H

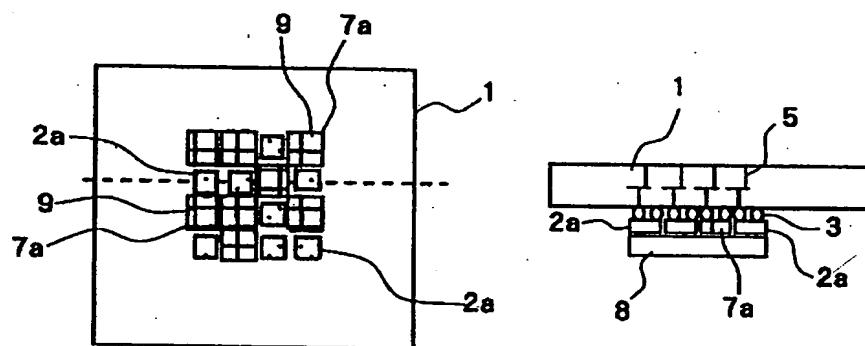
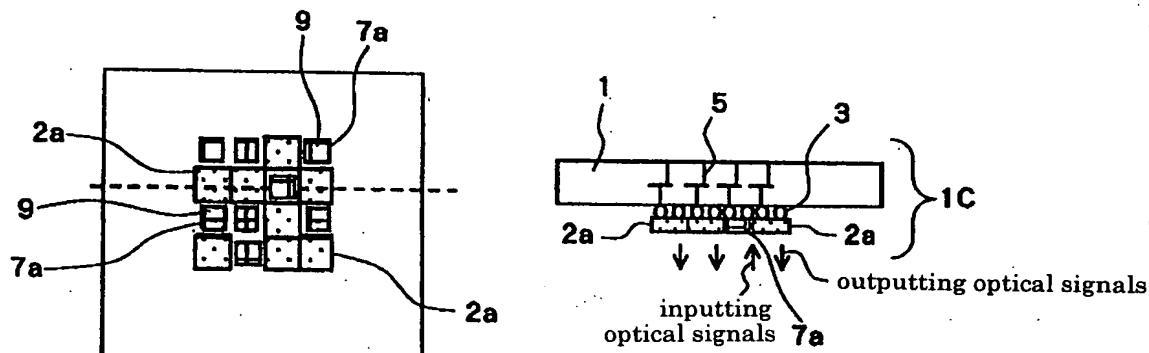


FIG. 7I



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 8A

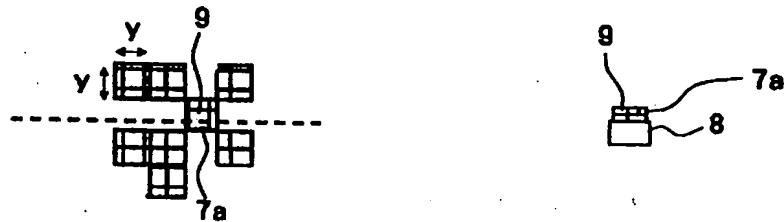


FIG. 8B

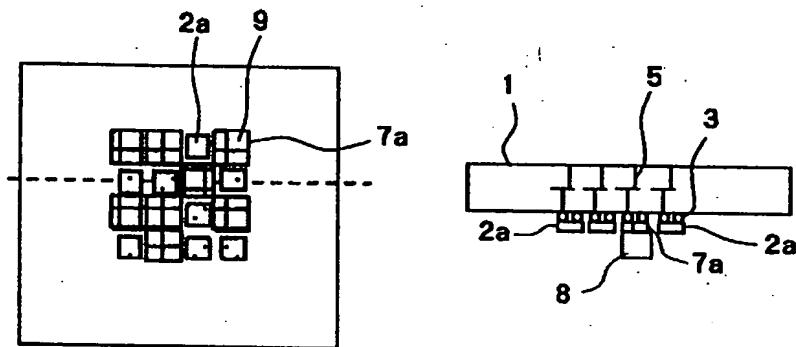
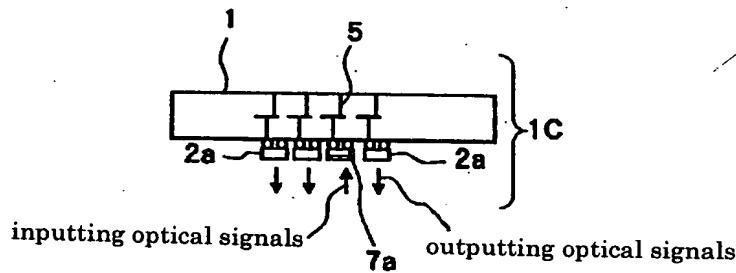


FIG. 8C



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 9

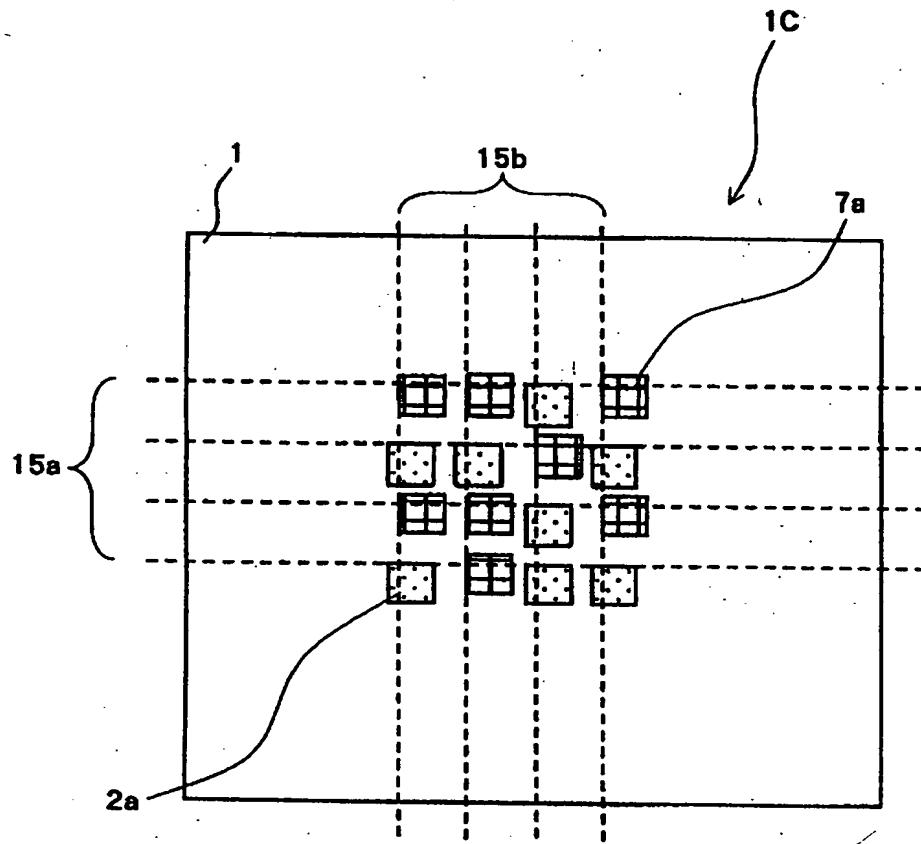
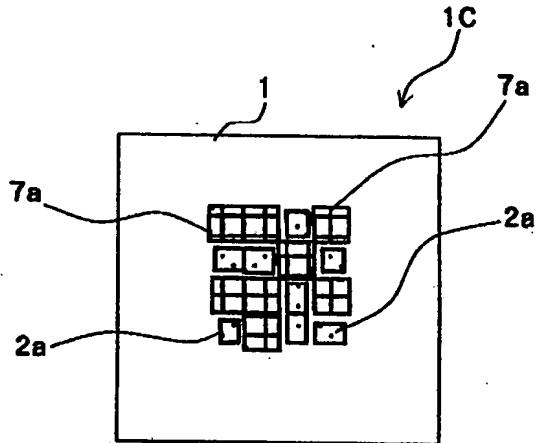


FIG. 10A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 10B

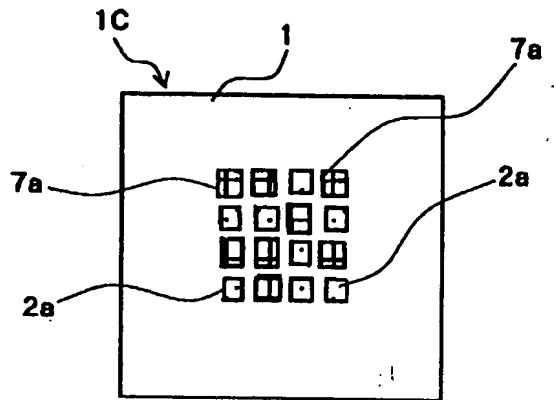


FIG. 10C

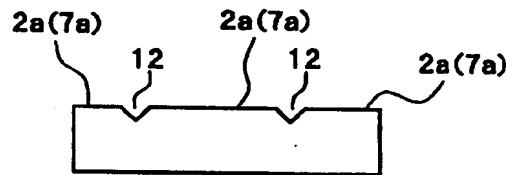
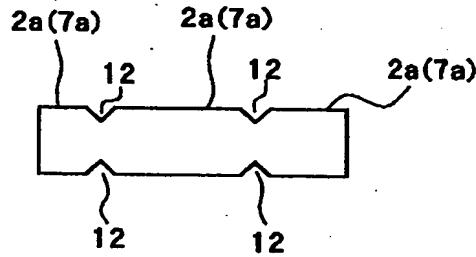


FIG. 10D



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 11A

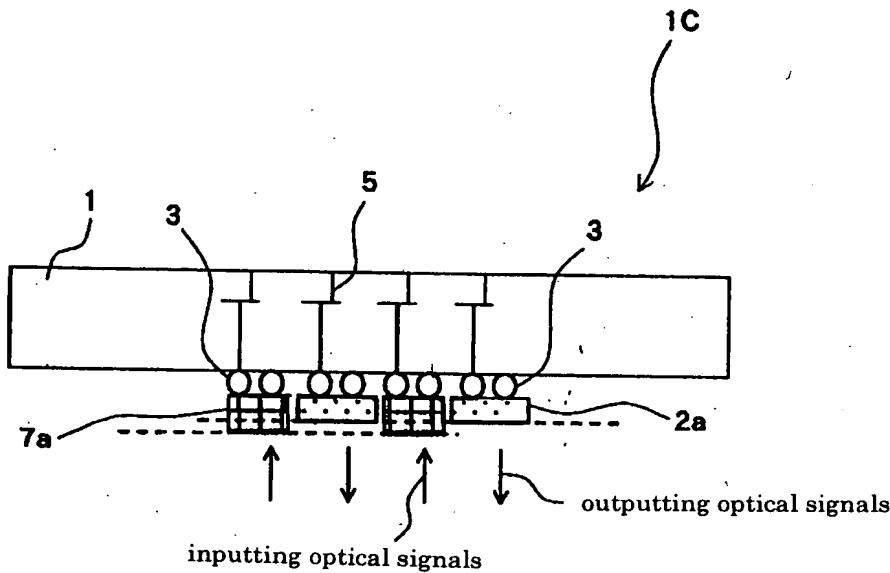
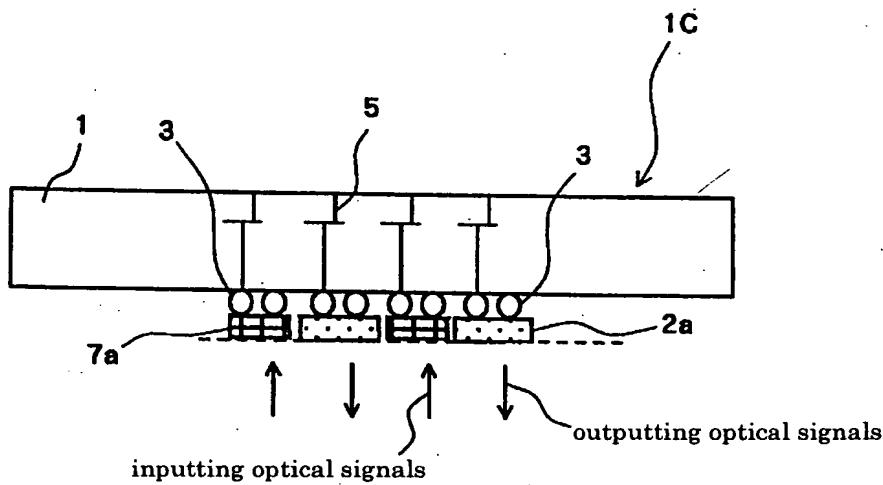


FIG. 11B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 12

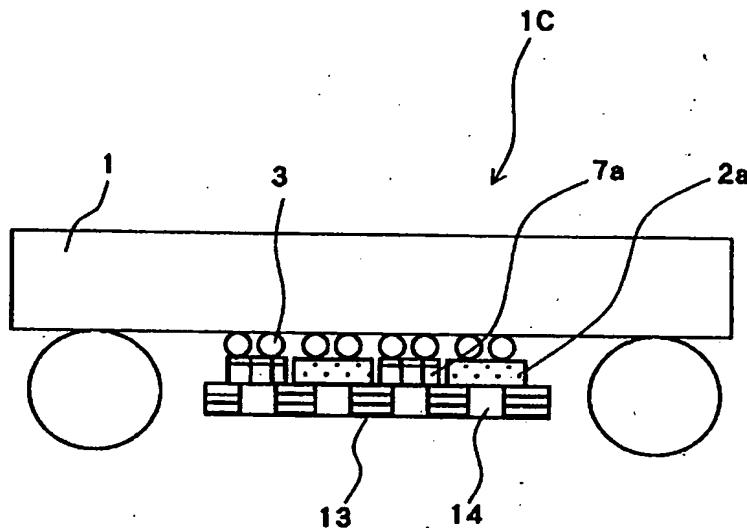


FIG. 13A

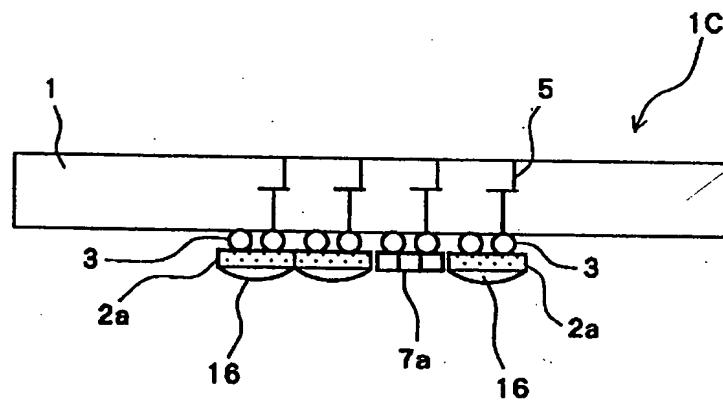
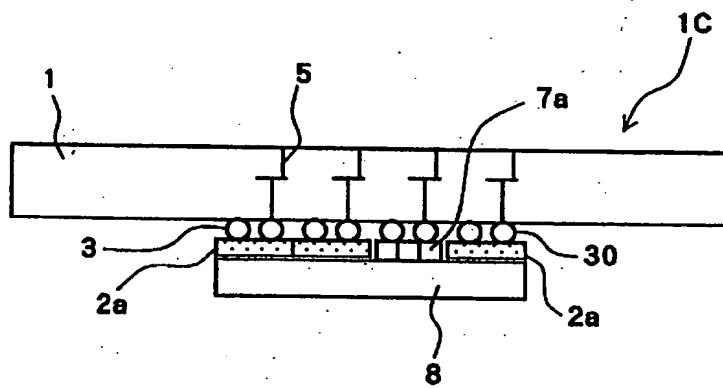


FIG. 13B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 13C

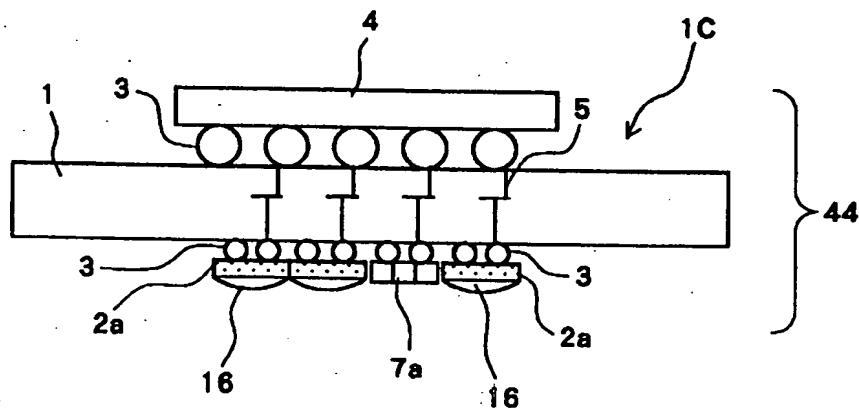


FIG. 14A

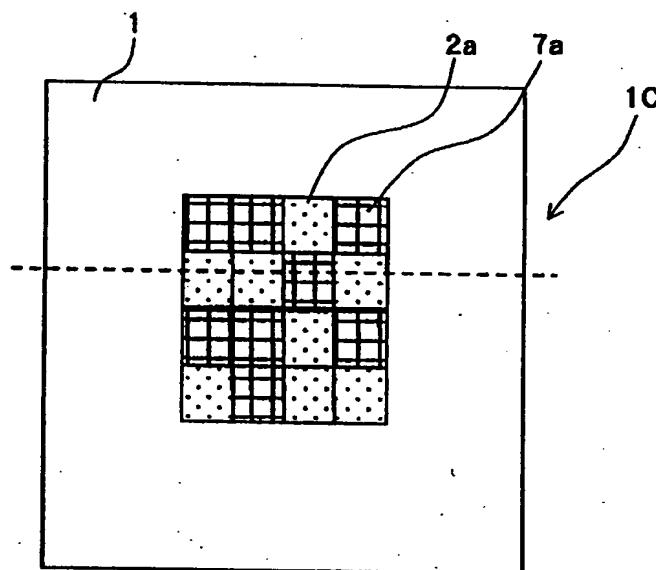
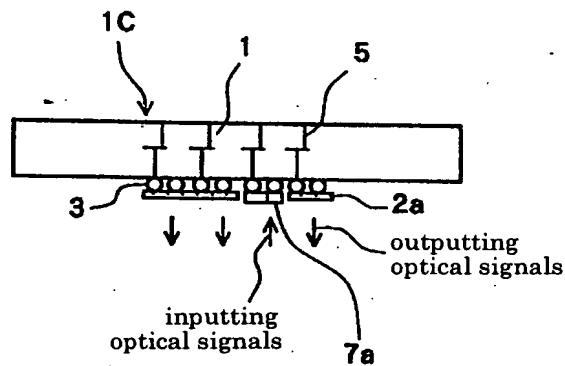


FIG. 14B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 14C

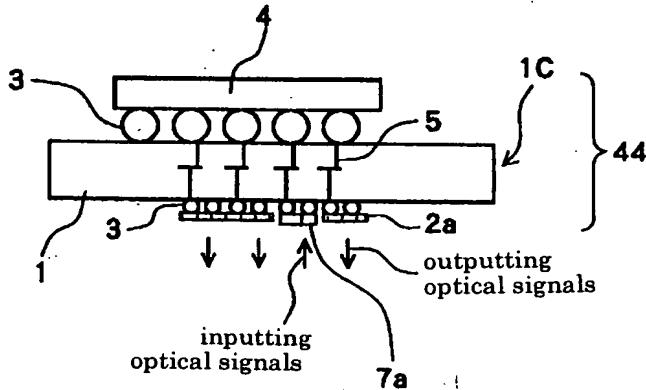


FIG. 15A

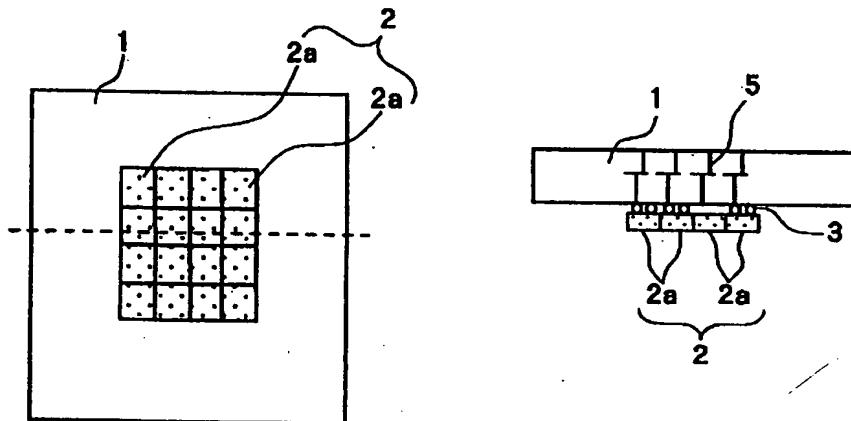
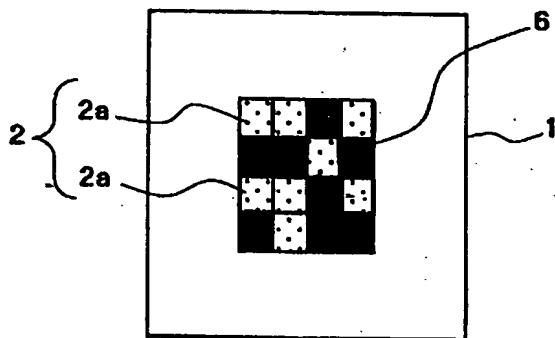


FIG. 15B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 15C

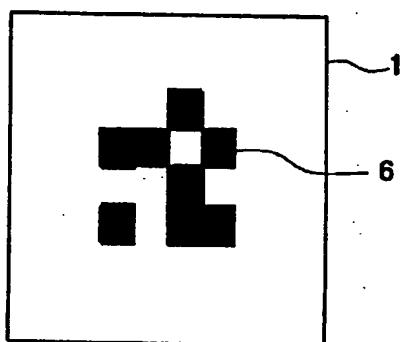


FIG. 15D

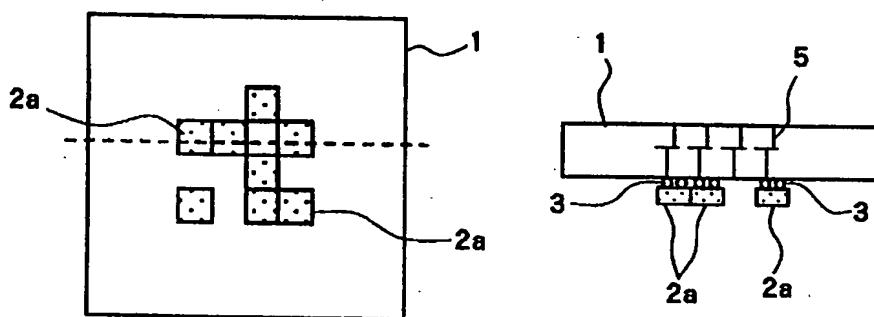
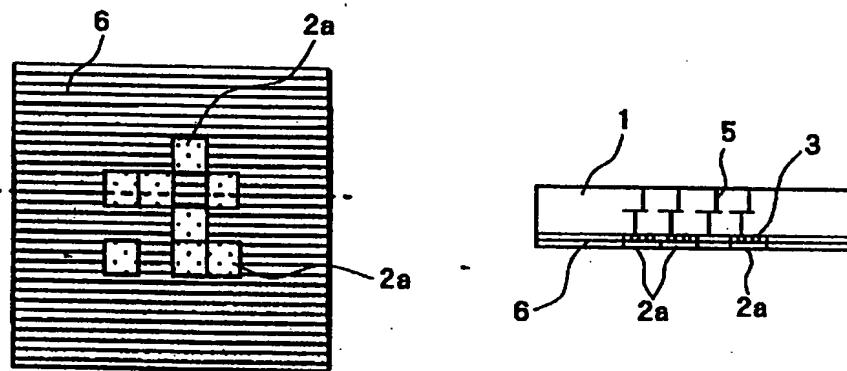


FIG. 15E



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 15F

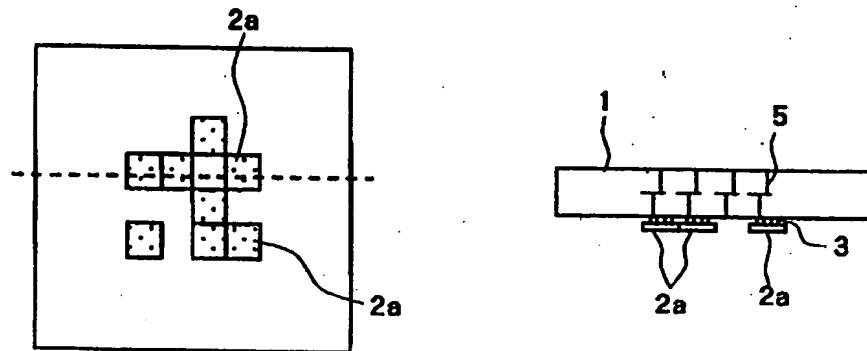


FIG. 15G

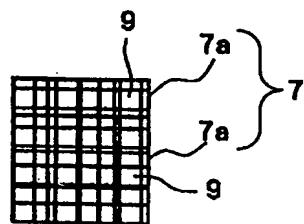


FIG. 15H

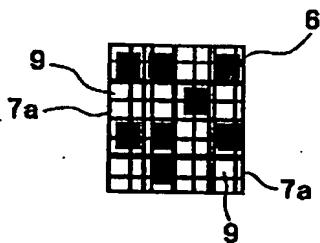
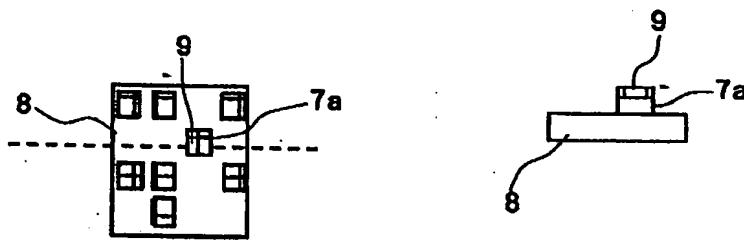


FIG. 15I



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 15J

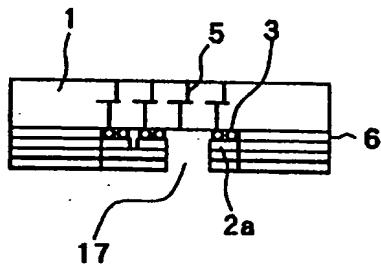


FIG. 15K

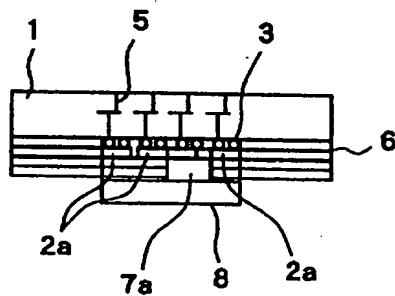
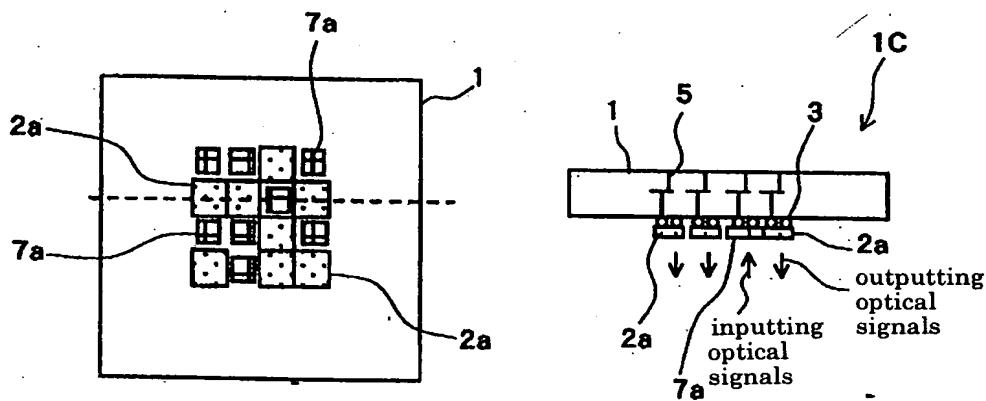


FIG. 15L



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 16A

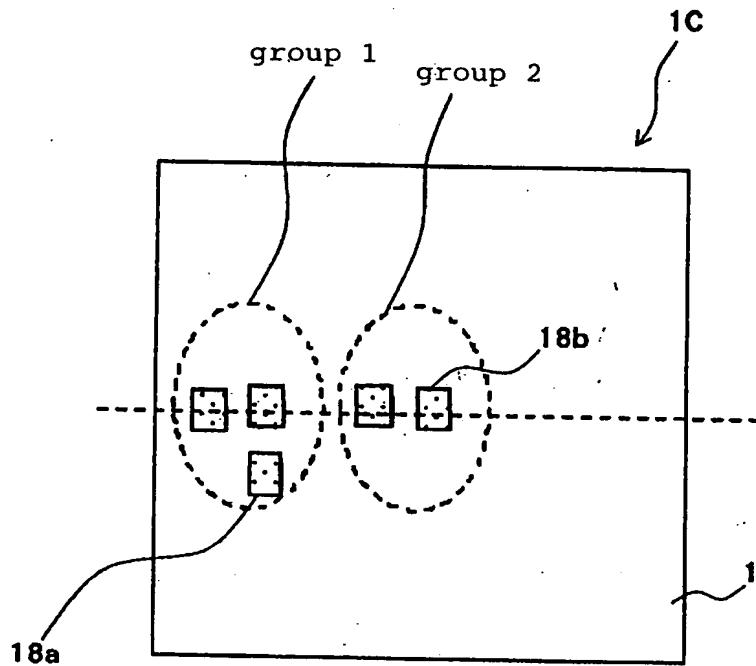
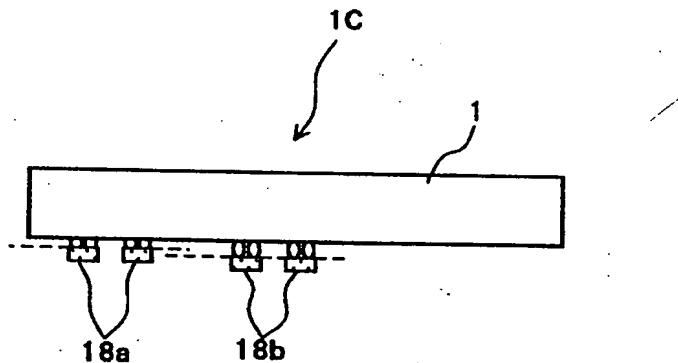


FIG. 16B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 17A

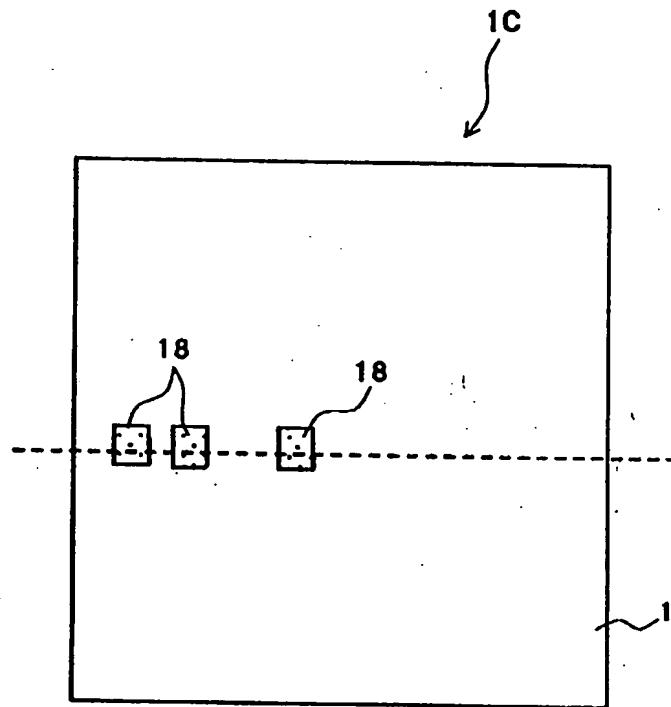
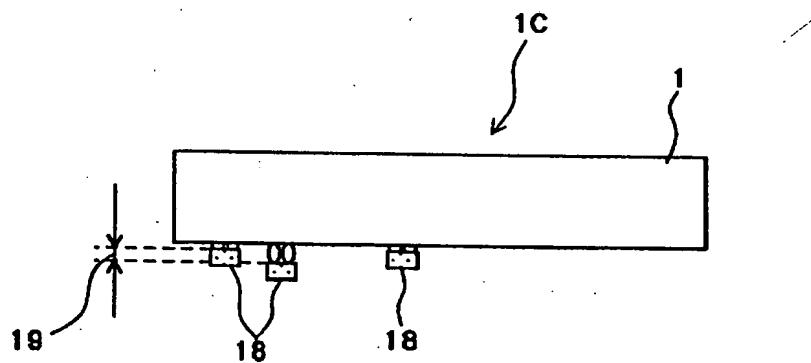


FIG. 17B



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 18A

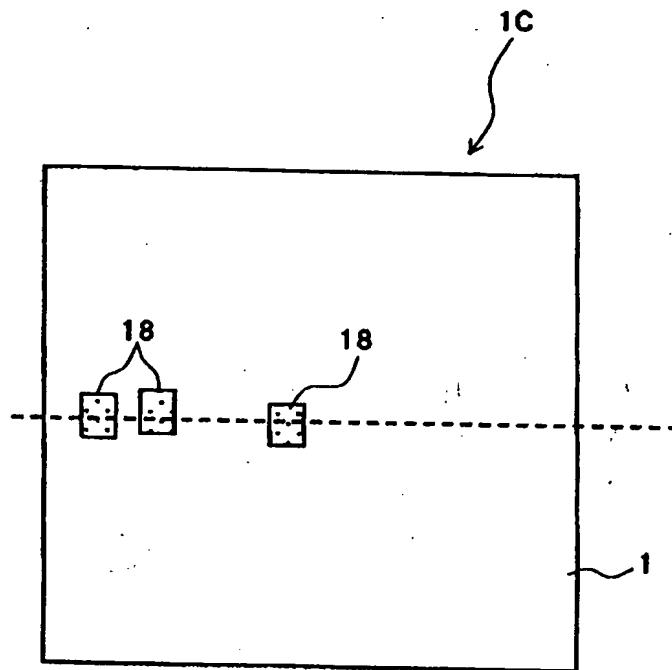


FIG. 18B

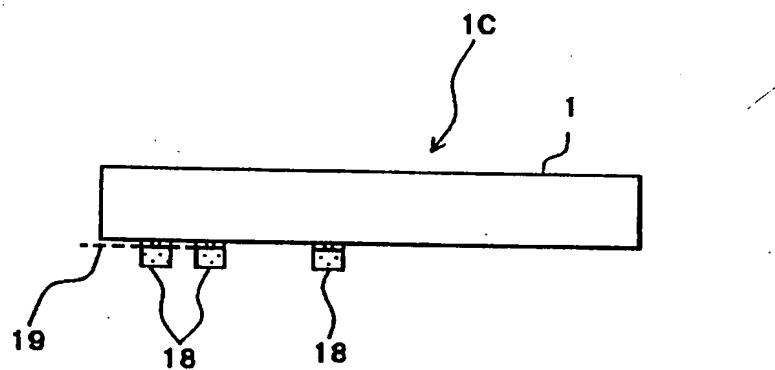
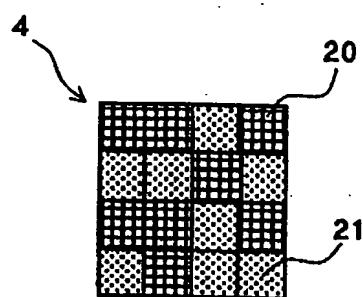


FIG. 19A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 19B

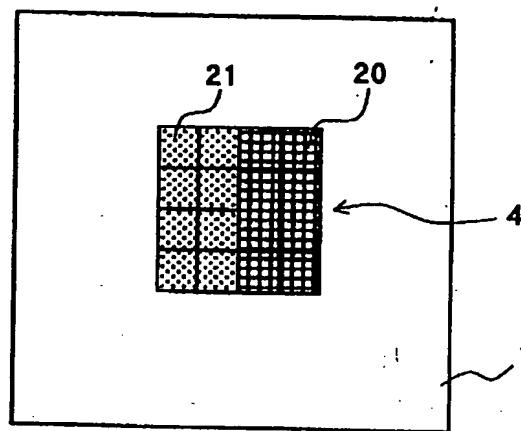


FIG. 19C

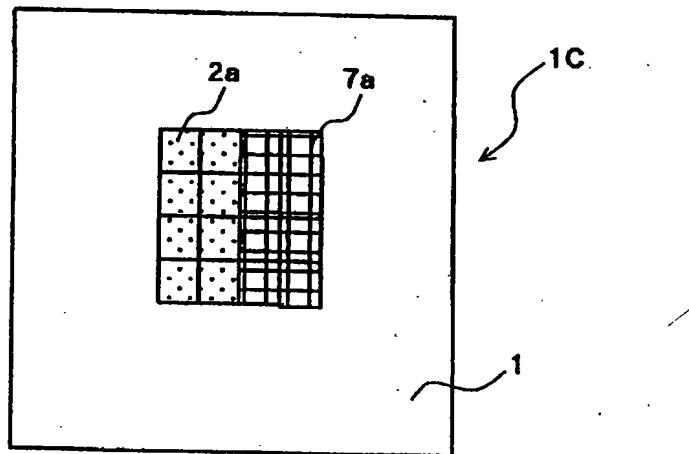
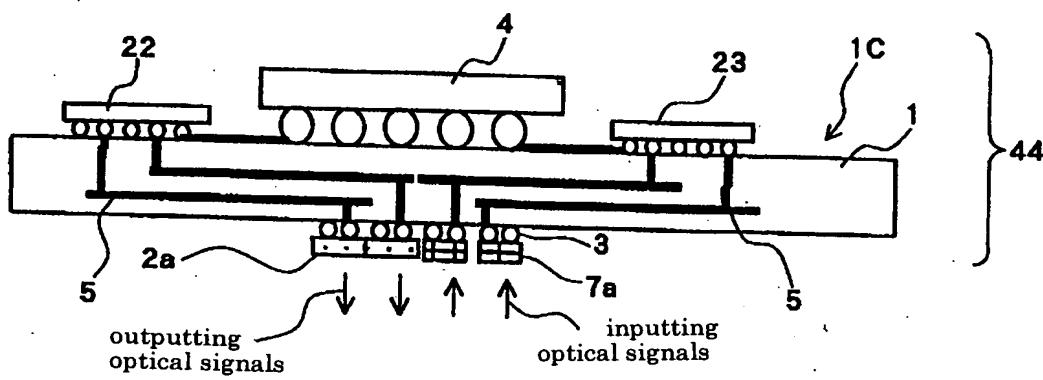


FIG. 20



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 21

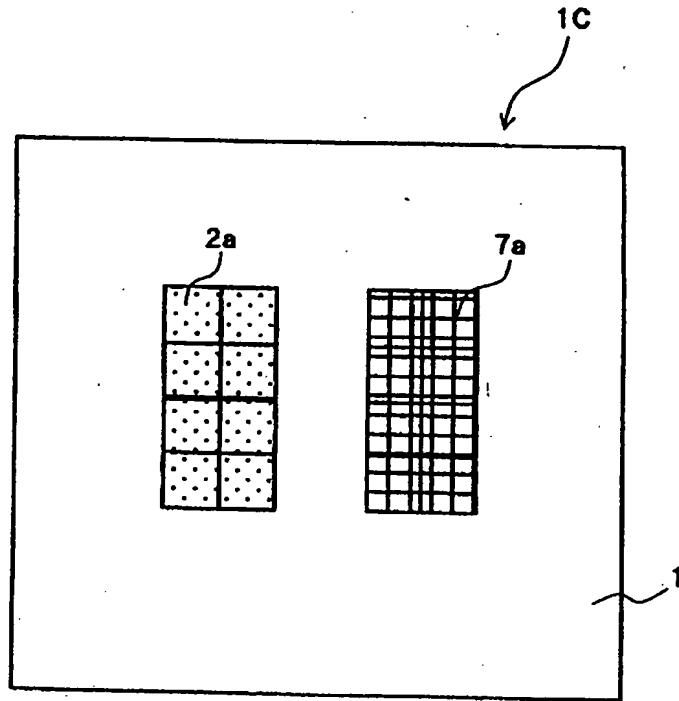
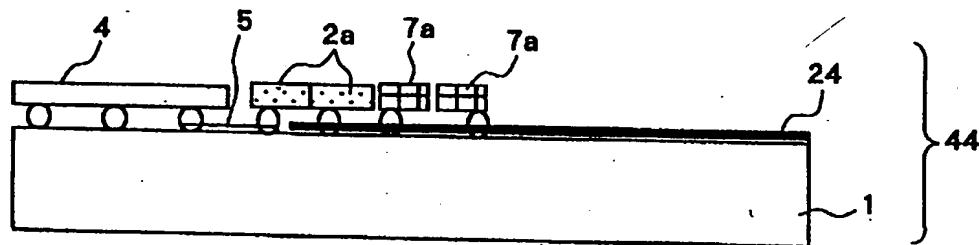


FIG. 22A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 22B

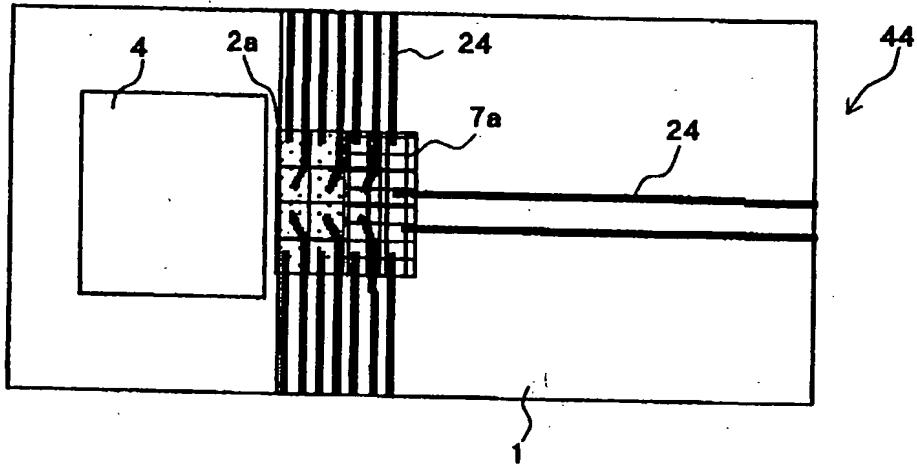
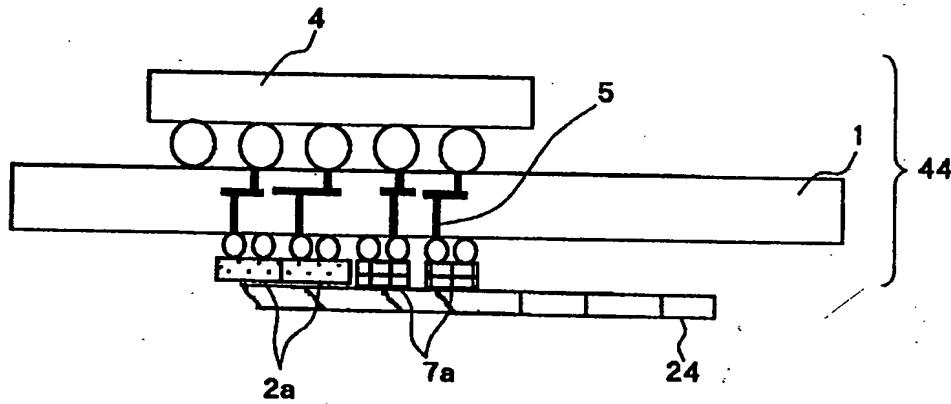


FIG. 23A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 23B

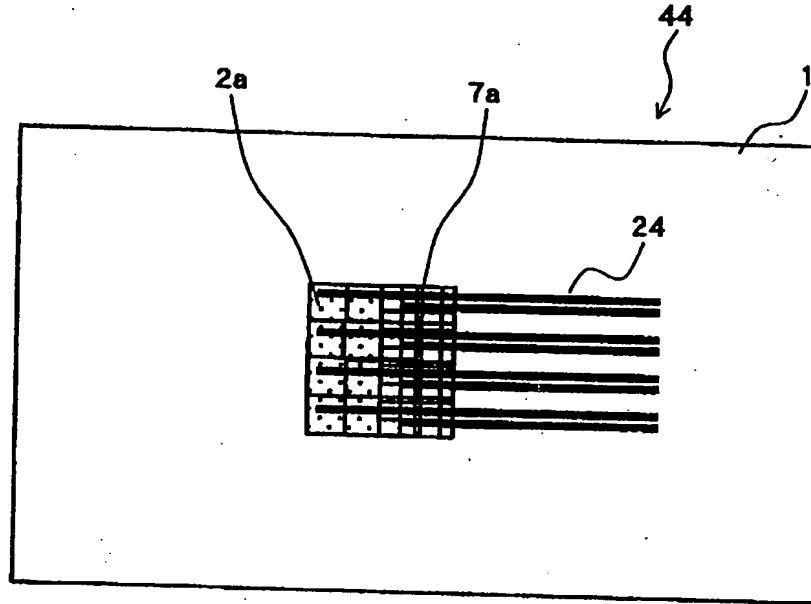
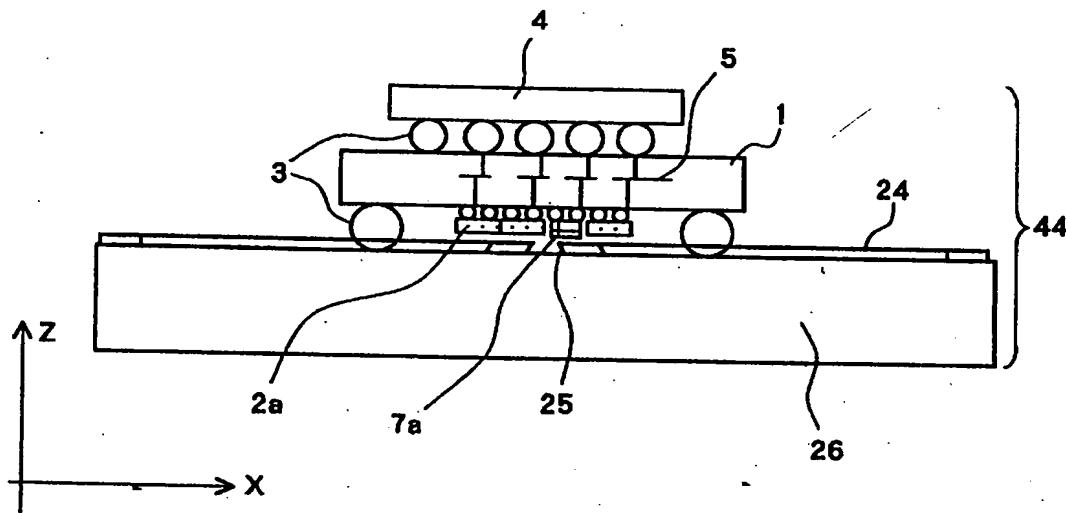


FIG. 24A



OPTICAL INPUT SUBSTRATE, OPTICAL OUTPUT SUBSTRATE, OPTICAL INPUT/OUTPUT SUBSTRATE, A FABRICATION METHOD FOR THESE SUBSTRATES, AND AN OPTICAL ELEMENT INTEGRATED SEMICONDUCTOR INTEGRATED CIRCUIT

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FIG. 24B

